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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,943	07/07/2003	Jin-Sung Kim	P56900	6665

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EXAMINER

GOOD JOHNSON, MOTILEWA

ART UNIT PAPER NUMBER

2677

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/612,943

Applicant(s)

KIM ET AL.

Examiner

Motilewa A. Good-Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/03, 6/04, 8/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida, U.S. Patent Number 6,326,938, in view of Lo, U.S. Patent Number 6,483,490.

Regarding claim 1, Ishida discloses a method of driving a 3-electrode plasma display apparatus, the method comprising: converting an external analog video signal into a digital signal to generate an internal video signal (col. 3, lines 29-41); generating drive control signals at a controller in response to the internal video signal (col. 2, lines 56-65); processing an X-drive control signal output from the controller and applying the result of said processing of the X-drive control signal to X-electrode lines (col. 2, lines 59-62); processing a Y-drive control signal output from the controller and applying the result of said processing of the Y-drive control signal to Y-electrode lines (col. 2, lines 56-59); processing an address signal at an address driver to generate display data signals and applying the display data signals to address electrode lines (col. 3, lines 1-9), the address signal being output from the controller, the apparatus including a 3-electrode

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plasma display panel, with the panel including the X-electrode lines (16), Y-electrode lines (12), and address electrode lines (14), the X-electrode lines and Y-electrode lines being alternately arranged in parallel (col. 2, lines 48-54) on a rear surface of a front transparent substrate to form XY-electrode line pairs (figure 1), the address electrode lines being arranged on a front surface of a rear transparent substrate to cross the XY-electrode line pairs, with intersections of the XY-electrode line pairs and the address electrode lines defining display cells (col. 2, lines 54-55);

However, it is noted that Ishida fails to disclose collecting excess charges remaining in the display cells when said applying of the display data signals ends, said collecting being performed by a power recovery circuit included in the address driver; applying the collected charges to the display cells when said applying of the display data signals starts; and controlling operation and non-operation of the power recovery circuit in dependence upon said applying of the display data signals to the address electrode lines.

Lo discloses collecting excess charges remaining in the display cells when said applying of the display data signals ends, said collecting being performed by a power recovery circuit (702 and 704) included in the address driver (col. 6, lines 20-25); applying the collected charges to the display cells when said applying of the display data signals starts; and controlling operation and non-operation of the power recovery circuit in dependence upon said applying of the display data signals to the address electrode lines (col. 4, lines 27-36)

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the power consumption control as disclosed by Ishida the energy recovery circuit as disclosed by Lo, to enhance the brightness and efficiency of the luminance.

Allowable Subject Matter

3. Claims 2-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art cited fails to render obvious uniformizing charges in display cells to be driven, said uniformizing corresponding to an initialization step; determining a charge state of display cells to be turned on and a charge state of display cells to be turned off, said determining corresponding to an address step; and provoking the display cells to be turned on to perform a display discharge, said provoking corresponding to a display-sustaining step; said uniformizing, determining, and provoking being performed in a unit subfield, the operation and non-operation of the power recovery circuit being controlled in dependence upon the display data signals applied to the address electrode lines in the address step.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Motilewa A. Good-Johnson whose telephone

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number is (571) 272-7658. The examiner can normally be reached on Monday, Tuesday and Wednesday 9:00 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Motilewa A. Good-Johnson
Examiner
Art Unit 2677

mgj


SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER